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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/624,661
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	First Named Inventor	Shellans
	Art Unit	2635
	Examiner Name	Shimizu, Matsuichrio
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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

(Revised Appeal Brief)

APPLICANT(S): Shellans

EXAMINER: Shimizu, Matsuichrio

SERIAL NO.: 10/624,661

ART GROUP: 2635

FILED: July 22, 2003

Case No.: PFD-0301

ENTITLED: Tagging and Tracking System

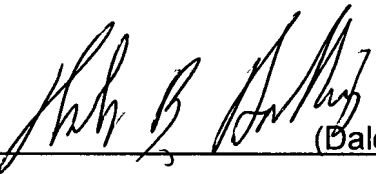
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## **APPEAL BRIEF**

Honorable Commissioner of  
Patents and Trademarks  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is an appeal from the final rejection of claims 1-20 of the Office Action dated November 29, 2005. This application was filed on July 22, 2003. Appellant submits this Appeal Brief pursuant to 35 U.S.C. §134 and 37 C.F.R. § 41.37 in furtherance of the Notice of Appeal (& Pre Appeal Brief) filed in this case on December 15, 2005. The fees required under 37 C.F.R. §1.17(b) were paid with the original Appeal Brief on February 28, 2006.

### **I. Real Party In Interest**

The real party in interest is Pathfinder Technology, Inc., a corporation organized and existing under the laws of the state of Colorado, and having a place of business at 3730 Sinton Road, Suite 250, Colorado Springs, CO 80907. See the Assignment recorded at Reel 014320, Frame 0772.

### **II. Related Appeals And Interferences**

There are no appeals or interferences related to the present appeal.

### **III. Status Of Claims**

Claims 1-20 (see Appendix) are pending in this application. Claims 1-20 are rejected and are involved in this appeal.

### **IV. Status Of Amendments**

A Pre-Appeal Brief was filed subsequent to the final rejection of November 29, 2005, on December 15, 2005. There has been no resolution of the substantive rejections.

## **V. Summary Of Claimed Subject Matter**

A concise explanation of the elements in the independent claims 1, 8 & 15 is provided below:

### **Claim 1**

The first element of claim 1 is an electromagnetic transmitter having an output. This is reference numeral 12 of FIG.1, reference number 102 of FIG. 5, and reference number 122 of FIG. 6. The electromagnetic transmitter is discussed on page 5, lines 4-5 & 15-16; page 7, lines 18-23; and page 8, lines 3-4 & 11-13.

The second element of claim 1 is a modulating tag, which is reference numeral 16 of FIGs. 1 & 2; and reference numeral 128 of FIG. 6. The modulating tag is discussed on page 5, lines 5-6, 10-11, 14-15, & 21-29 and page 8, lines 4-7 & 13-18. The modulating tag embeds and information signal (Reference numeral 18 of FIG. 1) on a reflection 18 of the output signal. This is discussed in detail on pages 5-6, lines 21-29 & 1-27. The modulating tag also has a tamper proof system, reference numeral 52, which is discussed on page 6, lines 21-27.

The third element of claim 1 is a receiver which is reference numeral 20 seen in FIG. 1, reference numeral 104 seen in FIG. 5 and reference numeral 134 seen in FIG. 6. The receiver is discussed on page 5, lines 6-7 & 15-16; page 7, lines 18-20; and page 8, lines 5-18. The receiver receives the reflected signal and has received output which is discussed page 8, lines 5-18.

The last element of claim 1 is a processor coupled to the received output for decoding the information signal. The processor is reference numeral 24 seen in FIG. 1. The processor and its function are discussed on page 5, lines 7-9 & 16-17.

### Claim 8

The first element of claim 8 is a plurality of modulating tags, which is reference numeral 16 of FIGs. 1 & 2; and reference numeral 128 of FIG. 6. FIG. 5 shows a system with a plurality of modulating tags on a plurality of mobile units (108), see page 7, line 21. The modulating tag is discussed on page 5, lines 5-6, 10-11, 14-15, & 21-29 and page 8, lines 4-7 & 13-18.

The second element of claim 8 is a plurality of electromagnetic transmitters, reference numeral 102, FIG. 5, in a plurality of key locations. This is discussed on page 7, lines 18-21. The transmitter is also reference numeral 12 of FIG. 1, reference number 102 of FIG. 5, and reference number 122 of FIG. 6. The electromagnetic transmitter is discussed on page 5, lines 4-5 & 15-16; page 7, lines 18-23; and page 8, lines 3-4 & 11-13.

The third element of claim 8 is plurality of receivers, one of the plurality of receivers receiving a reflected signal from one of the plurality of modulating tags. The plurality of receiver are reference numeral 104 of FIG. 5. The receiver is discussed on page 5, lines 6-7 & 15-16; page 7, lines 18-20; and page 8, lines 5-18. The receiver receives the reflected signal and has received output which is discussed page 8, lines 5-18.

The last element is a database, reference numeral 26, 112 of FIG. 1, 5, coupled to the plurality of receivers comparing the reflected signal to a predetermined signal. The relationship is shown in FIG. 5. The database is discussed on page 5, lines 9-10 & 17-19 and page 7, lines 23-35.

### Claim 15

The first element of claim 15 is a plurality of modulating tags, which is reference numeral 16 of FIGs. 1 & 2; and reference numeral 128 of FIG. 6. FIG. 5 shows a system

with a plurality of modulating tags on a plurality of mobile units (108), see page 7, line 21. The modulating tag is discussed on page 5, lines 5-6, 10-11, 14-15, & 21-29 and page 8, lines 4-7 & 13-18.

The second element of claim 15 is an electromagnetic transmitter capable of being pointed at a tag. This is reference numeral 12 of FIG. 1, reference number 102 of FIG. 5, and reference number 122 of FIG. 6. The electromagnetic transmitter is discussed on page 5, lines 4-5 & 15-16; page 7, lines 18-23; and page 8, lines 3-4 & 11-13.

The third element of claim 15 is an electromagnetic receiver which is reference numeral 20 seen in FIG. 1, reference numeral 104 seen in FIG. 5 and reference numeral 134 seen in FIG. 6. The receiver is discussed on page 5, lines 6-7 & 15-16; page 7, lines 18-20; and page 8, lines 5-18. The receiver receives the reflected signal and has received output which is discussed page 8, lines 5-18.

The last element of claim 15 is processor coupled to the received output for decoding the information signal. The processor is reference numeral 24 seen in FIG. 1. The processor and its function are discussed on page 5, lines 7-9 & 16-17.

## **VI. Grounds of Rejection to be Reviewed on Appeal**

1. Whether claims 8-10 & 12 are anticipated under 35 USC 102(b) by Pidwerbetsky (USPN 6,084,530).
2. Whether claims 1-7 & 15-20 are unpatentable under 35 USC 103(a) over Pidwerbetsky (USPN 6,084,530) in view of Seal (USPN 6,396,438).
3. Whether claim 11 is unpatentable under 35 USC 103(a) over Pidwerbetsky (USPN 6,084,530) in view of Shaw (USPN 6,563,417).
4. Whether claim 13 is unpatentable under 35 USC 103(a) over Pidwerbetsky (USPN 6,084,530) in view of Mish (USPN 6,025,784).
5. Whether claim 14 is unpatentable under 35 USC 103(a) over Pidwerbetsky (USPN 6,084,530) in view of Mish (USPN 6,025,784) and further in view of Shaw (USPN 6,563,417).



## **VII. Argument**

### **1. Whether claims 8-10 & 12 are anticipated under 35 USC 102(b) by Pidwerbetsky (USPN 6,084,530).**

“A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference.” *In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994). Claim 8 requires that the receiver receive a “reflected signal” from the modulating tags. Pidwerbetsky does not receive a reflected signal. Pidwerbetsky is directed to a system using RFID tags. The tag (see FIG. 3) receives an information signal from the interrogator 103 (FIG. 2). The tag does a normal RF detection (See 301, 302, 303, etc) and then responds with its own information signal 306 that modulates a carrier 308 and is transmitted over antenna 301. The present application modulates a reflected signal as opposed to transmitting a new signal. Note that the modulating tag 16 (FIG. 2) has a plurality of conductive traces 42 that are connected together by switches 44. Modulation of the reflected signal is achieved by changing the reflective properties of the tag 16 (See pages 5 & 6, lines 23-29 & 1-2 of the specification). Note that there is no detector or clock recovery as in Pidwerbetsky. In fact the tag does not receive an information signal. Claim 8 is allowable.

Claim 9 requires that the reflected signal be phase modulated. Since Pidwerbetsky clearly does not modulate the reflected signal, he cannot phase modulate the reflected signal. Claim 9 is allowable.

Claim 10 requires a reflected signal that defines a unique identifier. Since Pidwerbetsky clearly does not modulate the reflected signal, he cannot have a unique identifier on the reflected signal. Claim 10 is allowable.

Claim 12 is allowable as being dependent upon an allowable base claim.

**2. Whether claims 1-7 & 15-20 are unpatentable under 35 USC 103(a) over Pidwerbetsky (USPN 6,084,530) in view of Seal (USPN 6,396,438).**

The question of obviousness requires that we determine if the references, taken as a whole, would suggest the invention to one of ordinary skill in the art. *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 220 USPQ 97 (Fed. Cir. 1983).

Claim 1 requires a tag that embeds an information signal on a reflected signal. Neither Pidwebetsky nor Seal show or suggest modulation of a reflected signal. Pidwerbetsky does use the phrase “backscatter modulator” or MBS but the discussion is clearly about modulating the signal 308 generated by the tag, not the reflected signal. Both references are directed to RFID tags. The present application has nothing to do with RFID tags. Claim 1 is allowable.

Claims 2, 4, 6 & 7 are allowable as being dependent upon an allowable base claim.

Claim 3 requires that the information signal be periodic. See the explanation on page 7, lines 9-16 (FIG. 4) which clearly explains that the modulation of the reflected signal is a periodic signal since the tag does not know when it will be illuminated. The Examiner points to modulation schemes BPSK etc. This is not the information signal, this is just how the information signal is modulated. There is no discussion of a periodic signal in Pidwerbetsky, because this would not make sense in his case. The RFID tag receives an information signal from the interrogator and then responds. In the present

application, the tag does not receive an information signal from the transmitter it just reflects the incident light wave. Claim 3 is allowable.

Claim 5 requires the signal is modulated by changing its polarization. The portion of Seal (Col. 14, lines 26-34) pointed to by the Examiner just sets the polarization, it does not change the polarization to encode information onto the signal. Neither Seal nor Pidwerbetsky or the combination show or suggest polarization modulating of a signal. Claim 5 is allowable over the prior art.

Claim 15 requires a tag that polarization modulates a reflected signal. Neither Pidwebetsky or Seal show or suggest modulation of a reflected signal. Pidwerbetsky does use the phrase "backscatter modulator" or MBS but the discussion is clearly about modulating the signal 308 generated by the tag, not the reflected signal. Both references are directed to RFID tags. The portion of Seal (Col. 14, lines 26-34) pointed to by the Examiner just sets the polarization, it does not change the polarization to encode information onto the signal. The present application has nothing to do with RFID tags. Claim 15 is allowable.

Claims 16, 18 & 20 are allowable as being dependent upon an allowable base claims.

Claim 17 requires sending a tamper signal. The Examiner points to Seal element 1410. The only statement in Seal is that the tamper detector is a switch. It does not state that it sends a tamper signal. The switch probably turns off the transponder. This is not a tamper signal. Claim 17 is allowable.

Claim 19 requires that the information signal be periodic. See the explanation on page 7, lines 9-16 (FIG. 4) which clearly explains that the modulation of the reflected signal is a periodic signal since the tag does not know when it will be illuminated. The

Examiner points to modulation schemes BPSK etc. This is not the information signal, this is just how the information signal is modulated. There is no discussion of a periodic signal in Pidwerbetsky, because this would not make sense in his case. The RFID tag receives an information signal from the interrogator and then responds. In the present application, the tag does not receive an information signal from the transmitter it just reflects the incident light wave. Claim 19 is allowable.

**3. Whether claim 11 is unpatentable under 35 USC 103(a) over Pidwerbetsky (USPN 6,084,530) in view of Shaw (USPN 6,563,417).**

The question of obviousness requires that we determine if the references, taken as a whole, would suggest the invention to one of ordinary skill in the art. *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 220 USPQ 97 (Fed. Cir. 1983).

Claim 11 is allowable as being dependent upon an allowable base claim.

**4. Whether claim 13 is unpatentable under 35 USC 103(a) over Pidwerbetsky (USPN 6,084,530) in view of Mish (USPN 6,025,784).**

The question of obviousness requires that we determine if the references, taken as a whole, would suggest the invention to one of ordinary skill in the art. *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 220 USPQ 97 (Fed. Cir. 1983).

Claim 13 is allowable as being dependent upon an allowable base claim.

**5. Whether claim 14 is unpatentable under 35 USC 103(a) over Pidwerbetsky (USPN 6,084,530) in view of Mish (USPN 6,025,784) and further in view of Shaw (USPN 6,563,417).**

The question of obviousness requires that we determine if the references, taken as a whole, would suggest the invention to one of ordinary skill in the art. *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, 721 F.2d 1563, 220 USPQ 97 (Fed. Cir. 1983).

Claim 14 is allowable as being dependent upon an allowable base claim.

All the references cited by the patent Examiner are related to RFID (Radio Frequency Identification Tags). A cursory reading of the present application makes it clear that the “tags” in the present application are not RFID tags. Pidwerbetsky does use the phrase “backscatter modulator” or MBS but the discussion is clearly about modulating the signal 308 generated by the tag, not the reflected signal. This case should never have gone to appeal.

## **VIII. Claims Appendix**

1. A tagging and tracking system, comprising:  
  
an electromagnetic transmitter having an output;  
  
a modulating tag embedding an information signal on a reflection of the output from the electromagnetic transmitter, wherein the modulating tag includes a tamper proof system;  
  
a receiver for receiving the reflection having the information signal, the receiver having a received output; and  
  
a processor coupled to the received output for decoding the information signal.
2. The system of claim 1, further including a database coupled to the processor.
3. The system of claim 1, wherein the information signal is a periodic signal.
4. The system of claim 1, wherein the information signal is modulated at a frequency higher than a probable Doppler shift.
5. The system of claim 4, wherein the information signal is a polarization modulated signal.
6. The system of claim 1, wherein the modulating tag has a battery for power.

7. The system of claim 6, wherein the modulating tag includes an integrated circuit that drives a plurality of switches that create the information signal.

8. A tagging and tracking system, comprising:

- a plurality of modulating tags each attached to one of a plurality of mobile units;
- a plurality of electromagnetic transmitters positioned in a plurality of key locations;
- a plurality of receivers, one of the plurality of receivers receiving a reflected signal from one of the plurality of modulating tags; and
- a database coupled to the plurality of receivers comparing the reflected signal to a predetermined signal.

9. The system of claim 8, wherein the reflected signal is a phase modulated signal.

10. The system of claim 8, wherein the reflected signal defines a unique identifier for one of the plurality of modulating tags.

11. The system of claim 10, wherein the database contains an associated group of information related to the unique identifier.

12. The system of claim 8, wherein the plurality of mobile units are motor vehicles.

13. The system of claim 12, wherein the plurality of modulating tags are each a license tag.

14. The system of claim 13, wherein the plurality of key locations are traffic choke points in a city.

15. A tagging and tracking system, comprising:

a plurality of modulating tags attached to a plurality of mobile units, each of the plurality of tags capable of modulating a polarization of a received signal;

an electromagnetic transmitter having an output capable of being pointed at one of the plurality of modulating tags;

an electromagnetic receiver receiving a reflected signal from one of the plurality of modulating tags; and

a processor uniquely identifying the one of the plurality of modulating tags.

16. The system of claim 15, further including a database coupled to the processor, wherein the database contains an information associated with the one of the plurality of modulating tags.



17. The system of claim 15, wherein one of the plurality of modulating tags has been tampered with and reflects a tampered signal.

18. The system of claim 15, wherein each of the plurality of modulating tags has a tamper proof system.

19. The system of claim 18, wherein the information signal is a periodic signal.

20. The system of claim 19, wherein the information signal has a frequency that is higher than a probable Doppler shift.


**IX. Evidence Appendix**

None

**X. Related Proceedings Appendix**

None

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(Shellans)

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